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S.N. 09/993,682
Reply to Final Office Action of 20 November 2003

AMENDMENTS TO THE CLAIMS

This listing of Claims will replace all prior versions, and listings of Claims in the subject Patent Application:

Listing of Claims

Claim 1 (Cancelled).

Claim 2 (Previously presented): A white light emitting organic electroluminescent organic (EL) device comprising:

a substrate;

an anode formed on said substrate;

at least one hole transporting layer formed on said anode;

at least one luminescent layer formed on said hole transporting layer,

wherein a first dopant is doped into said luminescent layer;

at least one electron transporting layer formed on said luminescent layer,

wherein a second dopant is doped into said electron transporting layer; and,

a cathode formed on said electron transporting layer;

wherein a first light is emitted by said first dopant, a second light is emitted

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by said second dopant, and a third light is emitted by said luminescent layer when the device is applied with a bias voltage; and,

wherein the luminescence intensity of said second light and said third light is proportional to the volume ratio of said first dopant to said luminescent layer.

Claim 3 (Original): The organic EL device as recited in claim 2, wherein the volume ratio of said first dopant to said luminescent layer is in the range from 0.04 % to 0.01 %.

Claim 4 (Original): The organic EL device as recited in claim 3, wherein the volume ratio of said first dopant to said luminescent layer is preferably 0.025 %.

Claim 5 (Previously presented): A white light emitting organic electroluminescent organic (EL) device comprising:

a substrate;

an anode formed on said substrate;

at least one hole transporting layer formed on said anode;

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at least one luminescent layer formed on said hole transporting layer,
wherein a first dopant is doped into said luminescent layer,
at least one electron transporting layer formed on said luminescent layer,
wherein a second dopant is doped into said electron transporting layer; and,
a cathode formed on said electron transporting layer;
wherein a first light is emitted by said first dopant, a second light is emitted
by said second dopant, and a third light is emitted by said luminescent layer when the
device is applied with a bias voltage; and,
wherein the luminescence intensity of said third light is proportional to the
thickness of said luminescent layer and the luminescence intensity of said second light is
in inverse proportion to the thickness of said luminescent layer.

Claim 6 (Cancelled).

Claim 7 (Currently amended): A white light ~~The organic electroluminescent~~
(EL) device, comprising: as recited in claim 1, wherein

a substrate;

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an anode formed on said substrate;

at least one hole transporting layer formed on said anode;

at least one luminescent layer formed on said hole transporting layer.

wherein a first dopant is doped into said luminescent layer;

at least one electron transporting layer formed on said luminescent layer,

wherein a second dopant is doped into said electron transporting layer; and

a cathode formed on said electron transporting layer;

wherein a first light is emitted by said first dopant, a second light different in color from said first light is emitted by said second dopant, and a third light different in color from said second light is emitted by said luminescent layer when the device is applied with a bias voltage, said first light is being red light, and said second light is being green light, and said third light being blue light.

Claims 8 - 12 (Cancelled).

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Claim 13 (Currently amended): A white light The organic electroluminescent (EL) device, comprising: as recited in claim 1, wherein

a substrate;

an anode formed on said substrate;

at least one hole transporting layer formed on said anode;

at least one luminescent layer formed on said hole transporting layer,

wherein a first dopant is doped into said luminescent layer, said luminescent layer is being selected from the group consisting of: DPVBi, Balq, PVK, Zn(ODZ)₂, and a combination thereof;

at least one electron transporting layer formed on said luminescent layer, wherein a second dopant is doped into said electron transporting layer; and

a cathode formed on said electron transporting layer;

wherein a first light is emitted by said first dopant, a second light different in color from said first light is emitted by said second dopant, and a third light different in color from said second light is emitted by said luminescent layer when the device is applied with a bias voltage, said third light being blue light.

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Claims 14 - 18 (Cancelled).

Claim 19 (Previously presented): A method for fabricating a white light emitting organic electroluminescent (EL) device, comprising the steps of:

providing a substrate; forming, in sequence from substrate up, an anode, at least one hole transporting layer, at least one luminescent layer, at least one electron transporting layer, and a cathode;

doping a first dopant into said luminescent layer; and

doping a second dopant into said electron transporting layer;

wherein a first light is emitted by said first dopant, a second light is emitted by said second dopant, and a third light is emitted by said luminescent layer when the device is applied with a bias voltage; and,

wherein said luminescent layer is DPVBi for emitting blue light, said first dopant is DCM₂ for emitting red light, said second dopant includes a coumarin 6 dye material for emitting green light.

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Claim 20 (Original): The method as recited in claim 19, wherein the luminescence intensity of green light and blue light depends on the ratio of DCM₂ to DPVBi.

Claim 21 (Previously presented): A method for fabricating a white light emitting organic electroluminescent (EL) device, comprising the steps of:

providing a substrate; forming, in sequence from substrate up, an anode, at least one hole transporting layer, at least one luminescent layer, at least one electron transporting layer, and a cathode;

doping a first dopant into said luminescent layer; and

doping a second dopant into said electron transporting layer;

wherein a first light is emitted by said first dopant, a second light is emitted by said second dopant, and a third light is emitted by said luminescent layer when the device is applied with a bias voltage; and,

wherein the luminescence intensity of said second light and said third light depends on the thickness of said luminescent layer, wherein the luminescence intensity of said second light gets weaker and the luminescence intensity of said third light gets stronger as the thickness of said luminescent layer increases.